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NSC FOR WILDER AND TONG

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TAGS: ENRG SENV EINV ELTN EIND CH
SUBJECT: SHANGHAI INVESTS USD 175 MILLION IN AUTOMOTIVE RESEARCH

REF: SHANGHAI 541

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¶1. (SBU) Summary: In conjunction with the United States-China Science and Technology Executive Secretaries Meeting (ESM), the U.S. delegation visited a high-tech park and two high-tech projects in Shanghai on October 12. Interlocutors reported that the Shanghai municipal government aims to build up the automotive industry and has already invested almost USD 175 million in automotive research and development projects at Shanghai's Tongji University. These funds are being used to develop automotive fuel cell technologies and an advanced wind tunnel for vehicle and part design. Their current fuel cell prototype vehicle has sufficient power and responsiveness to power a normal car, but is very loud and prohibitively expensive. There is sufficient hydrogen produced as a by-product of Shanghai's steel and chemical industries to power all public transportation in Shanghai. Due to open in March 2008, Shanghai's wind tunnel will be the first full-scale automotive wind tunnel in China. End summary.

¶2. (SBU) State Department Office of Science and Technology Cooperation Director E. Bruce Howard led a delegation to the United States-China Science and Technology Executive Secretaries Meeting (ESM) held in Shanghai October 11-12. In conjunction with the meetings, site visits were arranged on October 12 to Shanghai's Caohejing Hi-tech Park, and Shanghai's Tongji University's Fuel Cell Vehicle Facility and new wind tunnel project.

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Tongji University's Fuel Cell Vehicle Facility
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¶3. (SBU) The ESM delegation visited the Fuel Cell vehicle facility at Shanghai's Tongji University in Jiading (an

administrative district in Shanghai city). They toured the fuel cell vehicle lab and wind tunnel project. Tongji University Automotive College Dean Yu Zhuoping and Vice Dean Ma Jun briefed the delegation on the development of fuel cell vehicles at Tongji University.

¶4. (SBU) According to Yu, the Shanghai government has invested RMB 800 million (USD 106 million) in the development of Tongji's Clean Energy Automotive Engineering Research Center (CEAEC). More than half of these funds were earmarked for the wind tunnel project. Yu said that Shanghai has invested so much money in automotive research in order to have balanced development in Shanghai. Shanghai has Bao Steel up in the north, Pudong Airport to the east, Jin Shan Petrochemicals in the south, but no landmark to the west. Given Jiading's strength in automotive industry, the government encouraged Tongji to set up its Automotive College in Jiading and supported it with a strong financial package.

¶5. (SBU) Ma told the delegation that the performance of Tongji's latest prototype vehicle has almost met the standards for normal cars as far as acceleration and speed are concerned. The biggest challenges facing them are reducing costs and developing necessary infrastructure. Current cost to build such a fuel cell prototype vehicle is about RMB 1 million (USD 133,000), although unit cost could drop to RMB 700,000 (USD 93,000) if mass produced. Infrastructure development is another bottleneck. Currently Tongji only has built one hydrogen filling station. The station is located close to its Jiading campus which is distant from the central part of Shanghai city.

¶6. (SBU) Ma said that the hydrogen currently used by the vehicles is a by-product of the steel and chemical industries located in Shanghai. He estimated that the two industries produce enough hydrogen to meet the demand of all taxis and buses in Shanghai if they were powered by fuel cells.

¶7. (SBU) Members of the delegation test drove the fuel cell prototype vehicle. They found that while the ride was

comparable to normal cars, noise levels were high. Ma explained that most of the noise came from an air compressor that was needed to supply sufficient oxygen to the fuel cell.

Shanghai Automotive Wind Tunnel Center

¶8. (SBU) Tongji University's Shanghai Automotive Wind Tunnel Center (SAWTC) Chief Engineer Yang Zhigang led the delegation through the SAWTC site, which is still under construction. Yang said that the project, with a cost of almost RMB 500 million (USD 67 million), was initiated by Ministry of Science and Technology Minister Wang Gang when he was dean of Tongji University's automotive college. SAWTC will be the first full-scale automotive wind tunnel in China. The project includes an aerodynamic and aero-acoustic full-scale wind tunnel, a climatic full-scale wind tunnel and the supporting facilities for vehicle test preparation. The project will provide R&D support and test services for automobile manufacturers, high speed train manufacturers, and vehicle components manufacturers for their product development. The wind tunnel is scheduled to be in operation in March 2008.

Caohejing Hi-Tech Park

¶9. (SBU) The delegation met with Caohejing (CHJ) High-Technology Park President Chen Qingzhou and CHJ Science and Technology Department Manager Han Baofu. CHJ was created as a state-level economic and technological development zone in 1988, and re-designated as a state-level high-tech industrial development zone in 1991. According to Chen, the four pillar industries in the park are Information Technology, New Materials,

Biotechnology & Pharmaceuticals, and Aeronautics & Astronautics. Chen expressed an interest in seeking more cooperation with United States businesses, as U.S.-invested companies account for the largest share (27 percent) of foreign investment in CHJ Park. The first foreign company established in the park was the Foxboro Company. Other major players in the park include: Philips, Du Pont, 3M, Cisco, Lucent, and Unilever.

¶10. (SBU) Chen told the delegation that CHJ is expanding geographically. A new sub-park called Pujiang Hi-tech Park has been set up nearby to accommodate the growing demand for manufacturing and research space. The new park is dedicated to developing modern manufacturing in the fields of electronics, computer, new materials & energy. The park is also in the process of building its fifth pillar industry, i.e. Modern Service Industry (service outsourcing).

¶11. (U) The delegation cleared on this report.
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